

WHAT IS CLAIMED IS:

1. A method for inducing an immune response to amyloid β peptides and amyloid deposits, comprising administering a peptide comprising the amino acid sequence

(Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Xaa₁ Xaa₂
Xaa₃ Xaa₄ Xaa₅ Glu Asp Val Gly Ser Asn Lys Gly Ala)_n (SEQ ID NO:15),

or a conjugate thereof, with a pharmaceutically acceptable carrier, excipient, diluent, or auxiliary agent, to a subject in need thereof,

wherein n is 1 or 2; and

Xaa₁, Xaa₂, Xaa₃, Xaa₄, and Xaa₅ are Leu, Val, Phe, Phe, and Ala, respectively, in which one or two of residues Xaa₁, Xaa₂, Xaa₃, Xaa₄, and Xaa₅ is substituted with Lys, Asp, or Glu.

2. The method of claim 1, wherein the subject is human.

3. The method of claim 1, wherein the peptide comprises an N-terminal, C-terminal, or both N- and C-terminal, polylysine or polyaspartate sequence of 4-10 residues.

4. The method of claim 1, comprising administering a conjugate comprising the peptide and a polymer.

5. A molecule comprising the antigen-binding portion of an antibody raised against a peptide comprising the amino acid sequence (Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Xaa₁ Xaa₂ Xaa₃ Xaa₄ Xaa₅ Glu Asp Val Gly Ser Asn Lys Gly Ala)_n (SEQ ID NO:15)

wherein n is 1 or 2; and

Xaa₁, Xaa₂, Xaa₃, Xaa₄, and Xaa₅ are Leu, Val, Phe, Phe, and Ala, respectively, in which one or two of residues Xaa₁, Xaa₂, Xaa₃, Xaa₄, and Xaa₅ is substituted with Lys, Asp, or Glu.

6. The molecule of claim 5, wherein the molecule is a monoclonal antibody.

7. The molecule of claim 5, wherein the molecule is a chimeric or humanized antibody.

8. A pharmaceutical composition comprising the molecule of claim 5 and a pharmaceutically acceptable carrier, diluent, excipient or auxiliary agent.

9. A method for reducing the formation of amyloid fibrils and deposits, comprising administering the molecule of claim 5 to a subject in need thereof.

10. An isolated peptide comprising the amino acid sequence

(Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu Val

Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala)_n (SEQ ID NO:1)

wherein n is 1 or 2; and

an N-terminal, C-terminal, or both N- and C-terminal, polylysine or polyaspartate sequence of 4-10 residues.

11. The peptide of claim 10, wherein the peptide comprises a polylysine sequence.

12. The peptide of claim 10, wherein the peptide comprises a polyaspartate sequence.

13. The peptide of claim 10, wherein the amino acid sequence of said peptide is SEQ ID NO:7 and the C-terminal residue is amidated.

14. The peptide of claim 10, wherein the amino acid sequence of said peptide is SEQ ID NO:6 and the C-terminal residue is amidated.

15. The peptide of claim 10, wherein the amino acid sequence of said peptide is
SEQ ID NO:8 or SEQ ID NO:11.

16. A molecule comprising the antigen-binding portion of an antibody raised against the peptide of claim 10.

17. The molecule of claim 16, wherein the molecule is a monoclonal antibody.

18. The molecule of claim 16, wherein the molecule is a chimeric or humanized antibody.

19. A pharmaceutical composition comprising the molecule of claim 16 and a pharmaceutically acceptable carrier, diluent, excipient or auxiliary agent.

20. A method for reducing the formation of amyloid fibrils and deposits, comprising administering the molecule of claim 16 to a subject in need thereof.

21. A method for inducing an immune response to amyloid β peptides and amyloid deposits, comprising administering the peptide of claim 10, or a conjugate thereof, with a pharmaceutically acceptable carrier, excipient, diluent, or auxiliary agent, to a subject in need thereof.

22. The method of claim 21, wherein the subject is human.